

AIR FORCE PROGRAMS

Global Command and Control System - Air Force (GCCS-AF)

The Global Command and Control System – Air Force (GCCS-AF) consists primarily of the Theater Battle Management Control System (TBMCS) with additional functionality provided under the umbrella of the Air Operation Center-Weapon System (AOC-WS) program. TBMCS provides hardware, software, and communications interfaces to support the preparation, modification, and dissemination of the Force-level Air Battle Plan (ABP). The ABP includes the Air Tasking Order and Airspace Coordination Order. TBMCS unit-level operations and intelligence applications provide Air Force Wings the capability to receive the ABP, parse it, and manage wing operations and intelligence to support execution of the ABP.

TBMCS supports the development and sharing of a common relevant operational picture of theater air and surface activity. Common TBMCS applications and interfaces provide a network for joint force data sharing. The TBMCS intelligence and targeting applications at the theater Joint Force Air Component Commander level, at the Air Support Operations Center (ASOC), and the Direct Air Support Center supports the coordination of precision engagement fires, safe passage zones, and near real-time warnings of impending air attack. The air and surface surveillance and weapons coordination engagement options enable synchronized operations and employment of the correct weapons for each target to generate the desired results. Engagement intentions and results assessments are shared by all TBMCS network participants, contributing to improved decision making by commanders.

TBMCS fielding includes every theater air component, all Navy aircraft carriers and command ships, all Marine Air Wings, and all Air Force flying wings and Air Support Operations Center squadrons. Army Battlefield Coordination Detachments also interface with TBMCS.

Since 1994, TBMCS has been under development and OSD placed it on oversight in 1999. The Program Management Office is the Air Force Electronic Systems Center at Hanscom Air Force Base, Massachusetts. The Air Force Operational Test and Evaluation Center became the lead test organization and coordinated the planning and conduct of two TBMCS Version 1.0.1 multi-Service operational test and evaluations, as well as operational tests of four subsequent enhancement releases. The 605th Test Squadron took the lead for future operational assessments. The unit-level intelligence (UL-Intel) and unit-level operations (UL-Ops) portions of TBMCS are tested and fielded separately, but interoperate with the Force-level system.

The TBMCS program made significant improvements since being on oversight and is compliant with the acquisition requirements for Major Automated Information Systems. Coordination among the Services for defining Service-unique requirements significantly improved, and the Service operational test agencies all work well together on this program.

The AOC-WS program is new and without a funding line for FY03. Test activity has been primarily limited to small, but high-priority improvements are needed to support Central Command efforts in the Middle East. Both TBMCS and AOC-WS are being combined to form GCCS-AF, and testing processes involving Service operational test agencies may need adjustment. TBMCS 1.1 and 1.1.1 versions, which were previously assessed as effective and suitable, are executing well in the field.



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TEST & EVALUATION ACTIVITY

The following test activity took place during FY03:

- TBMCS UL- Intel Spiral 7 FDE, April 2003.
- TBMCS 1.1.2 (Force-level) Combined Developmental Test/Operational Test, May 2003.
- AOC-WS 10.0.2 Combined Developmental Test/Operational Test, May 2003.
- TBMCS UL-Ops Spiral 7 Development Test, June 2003.

TEST & EVALUATION ASSESSMENT

TBMCS UL-Intel is using a nine-month spiral development approach, with time programmed in the schedule for fixing problems found during early testing. During Spiral 7, this approach worked very well and problems found during developmental testing were fixed before the system entered final developmental evaluation. As a result, the final developmental evaluation went smoothly, and the system was assessed to be effective and suitable.

TBMCS 1.1.2 experienced a response slowdown associated with the intelligence server. Subsequent testing by the 46th Test Squadron in an automated developmental test environment revealed the problem still exists, and this version is currently assessed as not effective and not suitable. DOT&E agrees with the responsible test organization that this problem should be fixed before fielding approval.

Most systems within the AOC-WS baseline are produced and tested separately. Testing of AOC-WS 10.0.2 focused heavily on defining the AOC-WS end system configuration based on the evolving baseline used by Central Command, bringing the system under close configuration management and ensuring the various systems interoperate. Significant progress has been made. Eliminating the need for the virtual private network surrounding TBMCS will offer further improvements.

TBMCS Unit-level Operations Spiral 7 experienced numerous delays due to problems found in the software during developmental testing. Unit-level Operations Spiral 7 will be operationally tested in April 2004.